

**GUIDE FOR AMERICAN BUSINESS:
ENERGY MARKETS OF EUROPE, RUSSIA, & THE NIS**

GREECE

I. Statistical Information -- Primary Energy Consumption in Greece (Year 2001)

2001	Ktoe(1)	%
Lignite(2)	8,231	68,9
Petroleum	2,042	17,1
Natur.Gas	1,279	10,7
Hydro	354	3,0
Nuclear	0	0
Renewable	34	0,3
TOTAL	11,945	100

(1) thousand tons of oil equivalent

(2) data include 4 Ktoe of imported Coal

II. Evaluation of Sectors -- Electrical Power Systems, Oil and Gas Field Machinery and Services, and Renewable Energy Equipment

- A) On a scale of 1 (low) to 5 (high), evaluate the priority given by the host government to energy development: 5
- B) On a scale of 1 (low) to 5 (high), evaluate country's receptivity to U.S. products & services: 3
- C) On a scale of 1 (heavy) to 5 (little), evaluate competition for U.S. exporters from local domestic suppliers: 3
- D) On a scale of 1 (heavy) to 5 (little), evaluate competition for U.S. exporters from third-country suppliers: 1
- E) On a scale of 1 (severe) to 5 (little), evaluate overall effect of trade barriers on U.S. exports of products and services: 4

III. Narrative Information

**The Greek Market for Electric Power Systems (ELP)/Oil & Gas Equipment (OGS)/
Renewable Energy Equipment (REQ)**
in Millions of U.S. Dollars

	2000	2001	2002*	Estimated average annual growth projected over the next 3 years
Total Market	2,450	2,900	2,856	16 - 18%
Domestic Production	435	500	650	18 - 20%
Domestic Exports	185	300	418	20 - 22%
Imports	2,200	2,700	2,624	16 - 18%
Imports from the U.S.	45	60	75	11 - 14%

* Estimated

Over the next five years dramatic energy market liberalization and solid growth in demand will together create significant opportunities for U.S. firms in this industry sector.

Deregulation of the multi-billion dollar electricity market in Greece on February 19, 2001 and the increase in power/electricity demand, means that U.S. companies have new export opportunities as suppliers or service consultants. U.S. manufacturers, exporters, and consulting engineering firms for electric and renewable energy machinery, equipment, parts and energy services have new opportunities for supplying, contracting or subcontracting involvement in the Greek energy market.

As a result of electricity market deregulation in 2001, Greek and foreign investors submitted a total of 917 applications for energy production projects with a total estimated capacity of around 19,000 MW to the Greek Regulatory Authority of Energy (RAE). Total estimated cost for these investments is around \$2 billion.

Major U.S. energy companies were among these investors with proposals to implement new and/or upgrade existing thermal and renewable energy power station units, or to supply electricity to Greece.

For Greece, the implementation of Directive 96/92/EU represents the opportunity to liberalize the sector, while respecting consumer rights as well as protecting the environment.

The Greek Ministry of Development will spend \$5.1 billion for its 2000-2006 energy development program. EU Third Community Support Framework (III CSF) funds and private sources will finance the program. Over this period, Greece will pursue several major projects in the energy sector that will require significant foreign technology and equipment. This ambitious energy development program will focus on natural gas and oil distribution, electrical power generation, and developing sources of renewable energy.

The Greek Ministry of Development has set the following strategic objectives:

- Secure energy supplies across all of Greece;
- Competitive operation of Greece's domestic energy markets;
- Contribution of the energy sector to the competitiveness of the Greek economy;
- Protection of the environment; and
- Strengthening of Greece's role in the development of the energy sector in the Southern Mediterranean, Balkans, and the Black Sea regions.

Based on the above goals, the six-year plan developed by Ministry officials focuses on accomplishing the following:

- Completion and improvement of necessary infrastructure in the energy sector (transmission, distribution, and tank networks);
- Joining international energy networks of oil, electric power, and natural gas;
- Setting into place strategic actions for the effective operation of the energy sector;
- Decreasing energy consumption with investments in energy efficient technologies, renewable energy sources; and
- Decreasing environmental pollution generated by energy providers.

The cooperation agreement for the development of a regional electricity market, signed in late 1999, has its first results. The Greek Public Power Corporation (PPC) is ready to publish in mid 2002 a number of tenders for the upgrading of the connections of the Greek electricity grid with Albania, FYROM and Bulgaria. This is designed to create both directly and indirectly, new sales and market development opportunities.

Greek energy policy is centered on developing natural gas as a fuel source since it is relatively environmentally friendly, stable, efficient, and inexpensive. This policy de-emphasizes lignite and oil as fuel sources, which currently provide most of Greece's electricity needs. A prime concern of the country's natural gas policy is to secure multiple sources of supply. Greece currently buys the bulk of its natural gas from Russia (via Bulgaria) and imports liquefied natural gas from Algeria. In an effort to find a second supplier of natural gas, Greece is working with the Turkish natural gas company, Botas, to interconnect the two countries' natural gas networks. A feasibility study for this project is underway.

Developing sources of renewable energy is also a priority for the Greek Government, presenting opportunities for U.S. firms with advanced technology in this field. The Ministry of Development plans to spend \$1.3 billion on renewable energy sources projects in Greece over the next six years. The projects will be undertaken together with other Greek Government controlled entities, such as

the Public Power Corporation (PPC) and the Natural Gas Corporation (D.E.P.A.). The III CSF will provide a majority of the funding for these projects. In addition, the National Operational Program for Energy - N.O.P.E., and the Operational Program for Energy (EPE), will also contribute funding.

In May 2001, the Greek Minister of Development unveiled plans under the Third Community Support Framework program, envisaging new investments totaling \$486 million in electricity-heating co-production, energy saving, and reserving conventional energy. The aim is to boost the country's energy efficiency, reduce Greece's dependence on imported energy sources, and protect the environment.

The amounts allocated for this program are as follows:

Solar, geothermal, hydroelectric investments, - \$164 million;
Wind power energy, - \$202 million
Energy saving and co-generation, - \$106 million;
Information systems, - \$14 million.

The Minister of Development also announced that Greece would engage in a second round of advances under this investment program worth \$750 million, by the end of the year 2002.

Experts project the installation of a number of windparks capable of producing 250 - 300 MW by the year 2003. Greece also has significant geothermal potential, with an estimated market for geothermal wells of \$500 million. Geothermal fields are a very significant yet under developed energy source for Greece. PPC has research and exploitation rights for the three most important geothermal fields of the country. PPC is looking for strategic partners, including investors and engineers to implement the development of these projects. This is an outstanding opportunity which U.S. energy and business interests should aggressively pursue.

There are also opportunities for the development of small hydroelectric plants with a capacity of 100 MW. The exploitable cogeneration potential in Greece over the next fifteen years is pegged at an estimated capacity of 1,000 MW, valued at a total of approximately \$550 million.

Hellenic Petroleum S.A. (HELPE), a Greek state-controlled company is currently undergoing privatization. HELPE is ready to float an additional 15 –30 percent of its shares by the end of April 2002, in addition to 23 percent of its shares floated in 1998. Two major groups, the Latsis-Lukoil group and the Austrian OMV group have expressed interest in HELPE's privatization plans. HELPE has also expanded its activities in the Balkans and acquired the OKTA refinery in the Former Yugoslav Republic of Macedonia. With the completion of the new oil pipeline connecting the port of Thessaloniki with Skopje, the increasing supply of oil sent to Albania and the contract, signed before the Kosovo crisis, for the upgrading and modernization of a major refinery in Yugoslavia, HELPE will become an important oil group in the Balkans. HELPE has also acquired 35 percent of the Greek state-controlled Natural Gas Corporation (D.E.P.A.) HELPE has a modernization and upgrade program with an estimated cost of around \$3.6 billion. Under the oil exploration law (2289/1995), allowing foreign firms to participate in oil exploration and

drilling projects, HELPE plans to undertake an extensive exploration program for new offshore oil fields by the year 2003.

U.S. energy sector equipment, products, and services are known in Greece for high quality and enjoy an excellent reputation. However, the main suppliers of energy equipment and parts are from Italy, Germany, France, and the United Kingdom due to their close proximity to the Greek market, and their aggressive marketing tactics. Highly sophisticated and innovative technology is a priority for upcoming projects, so business prospects for U.S. firms are promising in view of their competence and technical know-how. Agreements for the transfer of technology in the production of energy and energy related equipment and products as well as joint venture/licensing arrangements also have great potential

A. Electrical Power Generation and Transmission Equipment

Installed Electrical Power Generation Equipment (ELP) in Greece

	Capacity MW	Production Gwh
Thermal*	7,994	44,336
Hydro **	2,959	4,056
Renewable	37	91
Nuclear	0	0
Total	10,990	48,483

Breakdown of capacity:

* Based on Lignite - Coal	4,900 Mw	** Hydro over 5MW	2,952 Mw
* Based on Oil and Gas	3,094 Mw	** Hydro below 5MW	7 Mw

Total electricity consumption in Greece for 2000 was 48,928 Gwh, partially covered by imports from other Balkan countries. The demand for electric energy in Greece is projected to increase at an average annual rate of eight percent over the next five years.

ENERGY DEREGULATION, IN FEBRUARY 2001, ENDED A 50-YEAR MONOPOLY ON ELECTRIC POWER PRODUCTION BY THE PUBLIC POWER CORPORATION (PPC).

PPC, Greece's state-owned electric company, with 6.6 million customers, was founded in 1950 and is now the largest state owned utility in the country employing over 30,000 people. PPC, which operates as an independent entity controlled by the Ministry of Development, holds the

exclusive right to transmit and distribute electricity and produces 96% of the total production of electricity throughout the country. The generating systems of PPC consist of 33 lignite-fired, oil fired and hydroelectric units on the mainland, and 66 independent oil-fired units in Crete, Rhodes and the rest of the Greek islands. As far as the use of renewable energy sources in Greece today, 20 wind parks, 5 photovoltaic parks and 2 hydroelectric stations are in operation in the Aegean islands.

The transmission/transport system for electric energy from the power plants to the large consumption centers consists of high-voltage lines of 66 kV, 150 kV and 400 kV. This system covers a total length of almost 10,000 kilometers and is connected with the corresponding networks of Albania, FYROM and Bulgaria. In addition, 25 large industrial consumers are supplied directly from the transmission system. The vast majority of the lines comprising this system are overhead 150KV lines, though the system also includes approximately 160 km of underground and submarine lines.

The distribution system supplies medium voltage consumers with electric energy through lines of 6.6 kV, 15 kV, 20 kV, and 22 kV. Low-voltage consumers are serviced through 220/380V lines. The total length of the distribution network includes more than 200,000 kilometers of overhead lines and nearly 15,500 kilometers of underground lines.

The total Greek market for electrical power systems, equipment and products was valued at \$760 million in 2000. This market is expected to grow over the 2000-2006 period at an average annual rate of 16-18 percent as Greece expands its electric power network and updates its equipment. Domestic production of power generation equipment, valued at \$485 million, is mainly in cables, transformers, and medium and lower technology equipment.

PPC created a number of affiliate companies with major Greek and European firms the 2000-2001 time period. These companies are undertaking cogeneration, hydroelectric, wind and geothermal projects in Greece, the Balkans, and other Eastern Europe countries. Following its diversification plans, PPC established in October 2001, in cooperation with the Italian firm Wind, an affiliate to undertake development of a new telecommunications network in Greece.

The Athens 2004 Olympic Games Organizing Committee (ATHOC), in cooperation with the Greek Public Power Corporation (PPC) is preparing tender documents for the temporary rental of power generating units to be installed to cover electricity needs for the Athens 2004 Olympic Games. Estimated cost for the required rented equipment is around \$25 million.

In addition ATHOC, in cooperation with PPC, is preparing tender documents for a number of projects in order to secure the sufficiency of electricity and the reliability of its supply to Olympic facilities. The estimated cost is at around \$120 million. Other projects for the supply of electric power to Olympic Games facilities and distribution/transport stations are budget at around \$32 million. Required networks/grids for planned infrastructure projects are estimated at around \$24 million.

The table below shows Greek energy demand for the year 2000 according to Ministry of Development data.

GREEK PRIMARY ENERGY DEMAND (Mtoe)

	YEAR 2000	Percent of Total
Lignite	2,926	63,5
Coal	1	-
Crude oil	778	16,9
Hydro	342	8,5
Natural gas	509	11,1
Total of primary energy	4,606	100

B. Oil & Gas Industry and Equipment Market

Oil

The 2002-2006 revised development program of the Greek state-owned company, Hellenic Petroleum S.A. (HELPE), calls for the modernization and expansion of two state-owned refineries after their partial privatization, the development of a number of offshore oil exploration wells, and projects in other Balkan countries, valued at \$3.6 billion. The Greek Ministry of Development decided in July 2001 to proceed with the privatization of an additional 15-30 % of HELPE. The company itself has been partially privatized, with an additional 24 percent of its shares floated on the Athens Stock

Exchange in 1999. HELPE is among the major public purchasing entities in Greece and controls two refineries (ELDA and EKO), a consulting engineering firm (ASPROFOS S.A.), a gas station network company (ELDA-EKO), and the Public Gas Corporation of Greece (D.E.P.A.). HELPE also completed the acquisition of the seventh largest oil storage and distribution company in Greece, G. Mamidakis and Co. S.A. (GM). GM is the oldest independent private oil storage and distribution company in Greece, established in 1955, and accounted for around 4 percent of the oil market in Greece.

Greece's oil production is limited to about 2,500 barrels per day from the Prinos oil fields in the Aegean, off the coast of Kavala. These fields have remaining reserves worth an estimated 6-8 million barrels. Production at the Prinos and Prinos North fields stopped for more than five months in 1999, but started operation again in mid 2000. A consortium of Greek companies took over and began drilling once again, with very positive production results.

The U.S. firm, Triton International Petroleum Co., and a second consortium consisting of Union Texas Transnational (U.S.) and Enterprise Oil (UK) continue their efforts to locate oil reserves in four blocks (three onshore, one offshore), to which they have been granted licenses. Additional rounds of exploration licenses for onshore and offshore blocks are expected to be announced by the year 2003.

HELPE acquired FYROM's refinery, OKTA, with a capacity of 2.5 million tons per year, in 1999. An oil pipeline of 230 Kilometers with an estimated cost of around \$90 million is under construction from Thessaloniki to Skopje, to be completed by the end 2002.

Discussions on the construction of a 320-kilometer, \$800 million pipeline to funnel Russian oil from the Bulgarian Black Sea port of Burgas to Alexandroupolis in the Aegean continue. Thrace/Hellenic Petroleum S.A. received a crude oil pipeline project feasibility study prepared by Brown and Root and the German firm ILF. This pipeline is to be owned by Trans-Balkan Pipeline Company, a consortium composed of Gasprom, the Russian state energy company, with a 34 percent stake, and two Greek private companies (the Latsis shipping and oil group and the Copelouzos construction group), with around 33 percent stake. Bulgarian State oil companies will hold the remainder 33 percent. The final allocation of shares is still unclear but it is expected to be accomplished during mid 2002.

Oil production in Greece was 18.2 MMT in 2000, of which 4.1 MMT was exported. An annual increase of 3 percent in consumption is expected. There are four refineries in Greece out of which two, Hellenic Aspropyrgos Refinery S.A., (ELDA) and EKO, are controlled by the Greek State. The table below shows data for these refineries.

Greek Refineries

Names:	ELDA	EKO	Motor Oil	Petrola
Location:	Elefsis	Thessaloniki	Aspropyrgos	Ag. Theodroi
Year of Construction:	1958	1966	1972	1972
Refinery Type:	Simple	Complex	Simple	Complex
Production Capacity: (Million tons per year)	5.4	6.2	3.5	5.0

Natural Gas

In mid 2001, the Greek Government announced the privatization program for the Greek Natural Gas Corporation (D.E.P.A.). Later that year, PPC announced that the company would use its rights to buy a 25% part of D.E.P.A.'s shares.

Natural gas and liquefied natural gas (LNG) provide some of the most exciting energy sector opportunities in the Greek market. D.E.P.A. has planned a number of projects related to the transportation and distribution of natural gas and LNG throughout the country, worth more than \$2 billion total. These opportunities become more attractive with D.E.P.A.'s privatization program.

A prime concern of the country's natural gas policy is to secure multiple sources of supply. Discussions for the interconnection of the Greek and Turkish natural gas networks have started and relevant studies for this interconnection are in an advanced stage. Greece currently buys the bulk of its natural gas from Russia (via Bulgaria), according to an agreement signed in 1987 with the former Soviet Union. In early 2001, Greece also started importing 600 million cubic meters of Liquefied Natural Gas (LNG) annually from Algeria, a practice that will extend over a 20-year period.

Greece currently does not have any domestic gas production capability.

Gas consumed in Greece reached 2 million cubic meters in 2001, and will increase to 2.5 billion cubic meters by the year 2004. A number of projects for the use of natural gas are scheduled to be completed by the year 2004. These include the natural gas pipeline connecting the cities of Kavala and Komotini in Northern Greece, currently under construction, as well as its expansion to Alexandroupolis and the Greek-Turkish border. This new pipeline will supply natural gas to the natural gas burning power unit under construction in Komotini and later will connect the Greek natural gas network with the Turkish network. The Government of Greece plans to expand the main pipeline westward to carry natural gas to Albania with the prospect of a connection with the Italian network, eastward to supply the Greek area of Thrace and southward to the Peloponnese. The natural gas project will be completed with the contribution of about \$1 billion in EU financing. The European Investment Bank (EIB) will provide additional financing in the amount of \$300 million. The total cost of the project is estimated at \$2.5 billion.

Three regional gas distribution companies have been established in which D.E.P.A. and the local authorities, including municipalities, will hold 51% of the shares. The remaining 49% will be offered to private investors who will exercise management control of these regional distribution companies. These companies have been formed to distribute natural gas in Athens/Attiki, Thessaloniki, and Thessaly. These companies have already started development, construction, operation, and management of the new natural gas networks, which have an estimated cost of \$790 million. The U.S. company CINERGY, in a consortium with the UK company Shell, is undertaking the development of the Athens/Attiki regional network. Italgas is responsible for the other two networks.

Two additional gas distribution companies, one in Evia and one in eastern Macedonia and Thrace will be created by mid 2002.

The total market for oil and gas equipment (OGE) in Greece is estimated at around \$305 million for 2002. Imports from the United States for the same year are estimated at only \$30 million. Obviously, there is a considerable portion of the market in which U.S. companies ought to be competing more rigorously.

C. Renewable Energy Equipment

With over 1,000 islands with high sea wind speeds, an average of 300 sunny days and a large number of geothermal wells, Greece offers ideal conditions for harnessing wind, solar and geothermal energy.

Developing sources of renewable energy continues to be a priority for the Greek Government, presenting opportunities for U.S. firms with advanced technology. The Greek Regulatory Authority for Greece, (RAE), believes that by the year 2010, the share of the renewable energy supply to the total Greek energy system will be around 20%. The Ministry of Development plans to spend \$1.3 billion on renewable energy projects in Greece over the next six years. The projects will be undertaken together with other Greek Government controlled entities, involved in energy production, such as PPC and CRES. The III CSF will provide a majority of the funding for these projects. In addition, the National Operational Program for Energy - N.O.P.E. and the Operational Program for Energy (EPE) will fund a portion these projects.

The implementation of Law 2244/94 of October 1994 ended decades of virtual monopoly of electric power production by the PPC. This law allows industrial concerns and the private sector to establish and operate power stations to produce electric power from renewable sources, either for their own use or for resale to the PPC, with consistent, attractive prices that depend on the KWh value. As a result of this law, (and a number of explanatory and related ministerial decisions), many U.S. and foreign manufacturers of wind generators and other renewable energy equipment have been attracted to the Greek market.

The Minister of Development announced in mid 2001 that the government would support private power generation investment initiatives and expects that windparks with generating capacity of

more than 300 MW will be established in Greece within the next four years. The majority of the new windparks will be created by the private sector. The Ministry is supported in these efforts by two other government-controlled agencies, the Center for Renewable Energy Sources (CRES) and the Institute of Geological and Minerals Research (IGME).

PPC signed contracts with private firms for the entire production of electric energy from wind power on Crete in the year 2000. In October 2001, these contracts were transferred to the Greek Transmission System Operator (TSO-DESMIE).

Experts project the installation of several wind parks capable of producing 250 - 300 Mw by the year 2004. The first two U.S. wind parks, of 10 and 5 Mw respectively, located on the island of Crete have been in full operation since 1999. Both licenses were awarded to Iweco and Aelosa companies, both affiliate companies of the U.S. firm, Enron Wind Inc. Investment proposals for wind parks with a total capacity of 290Mw all over Greece have been submitted to RAE by Enron, the Greek affiliate of the U.S. based company, York Research Corporation, and Cannon International. Licenses for York Research Hellas S.A. and Cannon Corporation wind parks investment proposals were approved by RAE, and development plans will start in mid 2002.

There are many opportunities for the development of small hydroelectric plants with a total capacity of 100 MW. To date, two applications have been submitted to the Ministry of Development for one hydroelectric plant of 7 MW in the Epiros region. Four additional proposals, totaling \$15 million, have been submitted to the Ministry as well.

There are also opportunities in cogeneration development. Cogeneration at present is relatively undeveloped covering only 2.6 % of the energy production in Greece. Present installations are by a few major private companies while others are only at the experimental level. Although no more than twenty units with a total production of 200 Mw have been installed over the last five years, rapid development is foreseen over the next three years. New projects in the private sector will add a further capacity of 100 Mw by the year 2004. The feasible and exploitable cogeneration potential in Greece over the next fifteen years is for an estimated capacity of 2,000 Mw, valued at approximately \$550 million.

According to market experts, the photovoltaics (PV) market in Greece for non-interconnected areas will reach \$10 million by 2003. A major PV investment by a leading Greek contracting company, Themeliodomi/Iliodomi, using the technology of the U.S. firm EPV, is expected to be completed by mid 2003.

The Athens 2004 Olympic Games Organizing Committee is planning to install PV systems in some of the facilities to be used for the Olympic Games. According to the plans, ATHOC will issue a tender for the supply, installation and use of Photovoltaic systems in the majority of the venues, and facilities to be used during the Games. The Olympic Village, the Media Village, as well as the open/covered parking spaces are among the facilities included in the PV systems program. The capacity of the PV's to be installed is estimated at around 2.8 to 3.2 MW.

IV. Major Procurements on the Horizon (next 18-36 months)

Over the next decade, Greece will be pursuing several major projects in the energy sector that will require significant foreign technology and equipment. Tendering procedures for implementation of these projects are underway or will be ready for announcement soon.

The following projects to be announced/implemented during the next 18-36 months offer the best opportunities for U.S. companies:

Electric Power

PPC 2002-2006-development program is expected to be ready by mid June 2002. The total cost for implementation of the program is projected at \$2.4 billion. PPC, the Third Community Support Framework Program (III CSF), the EU Regional Development Fund, and the European Investment Bank will provide financing. The plan calls for three major and twenty-five smaller hydropower stations, the modernization of the nation's electricity network and the acquisition and maintenance of submarine transmission cables connecting the mainland with major islands.

The Athens 2004 Olympic Games Organizing Committee, in cooperation with PPC is preparing tender documents for the temporary rental of power generating sets to be installed to cover electricity needs for the Athens 2004 Olympic Games. Estimated cost for the required rented equipment is around \$25 million.

Tender documents for a number of projects designed to secure the sufficiency of electricity and the reliability of its supply, are also under preparation. These concern distribution/transport stations, as well as required networks/grids for transportation infrastructure projects connecting Olympic facilities. The total estimated cost is around \$176 million.

CRES also conducted studies for energy saving projects in the construction of facilities for the Athens 2004 Olympic games. The basic studies concern bioclimatic facilities as well as the installation of natural gas operated central systems for heating and cooling. The III CSF investment program will provide funding to supply the electricity for the Olympic village, the racetrack facility in Markopoulo and the multi-functional center in Faliron region. In addition the following tenders to be issued soon, have been announced by PPC and TSO/DESMHE:

- The extension of the Greek electric grid to the Turkish border
- The upgrading and expansion of the interconnections of the Greek electric grid with Albania, FYROM and Bulgaria
- Partial privatization of PPC
- Upgrading of PPC's Customer Billing System

Oil

In addition to the opportunities presented by the granting of oil exploration licenses, the following represent good opportunities for U.S. firms:

- Partial privatization, 25-30%, of HELPE S.A.
- Construction of a 320-kilometer long pipeline to funnel Russian oil from the Bulgarian Black Sea port of Burgas to Alexandroupolis in the Aegean at a cost of \$700-800 million.
- The modernization and upgrading of two HELPE refineries as part of its privatization program.
- The modernization of recently acquired HELPE installations in the Balkans, including the OKTA refinery in FYROM. \$60 million is expected to be allocated for the upgrade of this refinery alone.
- \$600 million Petrola refinery upgrading and modernization project.

Natural Gas

Apart from the three regional natural gas distribution companies which are under development, the following projects in this subsector, offer the best opportunities for U.S. companies:

- Partial privatization of D.E.P.A. together with a strategic partner
- Establishment of two new regional natural gas distribution companies in Greece. A tender will be issued soon.
- The development of aquifer underground storage facilities for 1 billion cubic meters of natural gas in the S-Kavala depleted gas field in northern Greece.
- Expansion of medium pressure branches to supply natural gas to industrial consumers in cities in Northern Greece
- Expansion of the Northeast high pressure branch pipeline from the city of Komotini to Alexandroupolis, and on to the Greek-Turkish border
- Expansion of the regasification capacity and doubling of the capacity of the storage tanks of the LNG terminal in Remvithousa.
- Final Study for the construction of a 110-120 kilometer-long undersea natural gas pipeline running from Otranto, Italy to Igoumenitsa, Greece, at a cost of \$250-400 million.

RAE has also approved licenses for six major natural gas burning power units to be developed by the private sector. These units will have a total capacity of 2190 Mw. One of these stations, at an estimated cost of \$ 500 million, will be built in Northern Greece to supply electricity to Turkey.

Renewable Energy

In early July 2001, RAE approved 38 licenses for the development of new or existing wind parks, small hydroelectric units, and photovoltaic and biomass installations in Greece with a total capacity of 190 Mw.

The Ministry of Development projects the installation of several wind parks capable of producing 250 - 300 Mw by the year 2004. New applications for the creation of wind parks on the islands or the mainland by private companies and/or consortia are encouraged by the Ministry. PPC is also preparing tender documents for a new 10 Mw wind park on the island of Crete.

Numerous geothermal sites have been identified around the country for development, with a total capacity of 1,500 Mw. Some sites which were previously developed by PPC, plus 15 additional power stations from 700 kW to 11 Mw are included in the PPC's 1994 - 2005 development program.

V. Major Trade Events/Fairs

An excellent way for a U.S. company to receive maximum market exposure in Greece is to participate in a U.S. Government organized trade event, or to take part in a specialized local trade show. U.S. firms are encouraged to wage an aggressive marketing campaign in Greece. Participating in specialized trade fairs in Greece is particularly effective.

Specialized trade shows include:

AERION '2003 - November 4-9, 2003, Athens, held every other year: An exhibition specializing in energy and natural gas machinery, equipment, parts and technology. The organizer of the exhibition is:

LDK Consultants, Engineers and Planners
21 Parodos Thivaidos Street
GR-145 64 Kifissia, Greece
Tel: 30/10/819-6700, Fax: 30/10/819-6709
Mr. Leonidas Damianidis, Managing Director
E-mail: main@ldk.gr

Although there are no other specialized trade fairs for Electric Power Equipment (ELP), Oil and Gas (OGE) and Renewable Energy Equipment (REQ) equipment and accessories in Greece, related promotional vehicles include:

INDEX '2002 - November 2002, (Annual): A general fair with special sections for industrial, electrical and mechanical products and parts. It takes place in Athens annually during the second

week of November. American firms may participate directly or through their local representatives. For further information, please contact:

Messogiakes Emborikes Diethnis Ekthesis S.A.
301 Leoforos Lavriou,
GR-190 02 Peania - Attiki, Greece
Tel: 30/10/665-9810, 665-9861, Fax: 30/10/665-7956
Mr. Michalis Maroudas, General Director
E-mail: mec@otenet.gr

INFACOMA 2003, (Annual): This is a building materials fair with a special section for EPS equipment and parts. The next event will take place at the Helexpo, Thessaloniki, Exhibition Center, February 2003. The organizer of the show is:

HELEXPO
154 Egnatias Street
GR-546 36 Thessaloniki, Greece
Tel: 30/310/291-111, Fax: 30/310/229-116
Mrs. Aleka Georgiadou, Director
E-mail: infacoma@helexpo.gr

CLIMATHERM '2004, (Annual): This is an air-conditioning, heating, refrigeration, and renewable energy equipment and products fair. It takes place in Athens annually the last week of February. The next event will take place at the Stadium Irinis kai Filias (SEF) in Piraeus, February 28 - March 3, 2004. For further information, please contact:

PROJECT LTD
71 Egeou Street
GR-171 23 Athens, Greece
Tel: 30/10/935-6110, Fax: 30/10/935-6111
Mrs. Soula Kyveri, General Director
E-mail: project@climatherm.gr

Participation in a U.S. Government-organized exhibition is also an excellent way to receive maximum exposure. A logical choice is the American Pavilion at the THESSALONIKI INTERNATIONAL FAIR.

The U.S. Embassy and the American-Hellenic Chamber of Commerce jointly organize the American Pavilion at this event. This horizontal show attracts over a million visitors from all over the Greece. The International Fair of Thessaloniki is Greece's premier trade event, and has been held annually for more than 50 years. The next show will be held in September 8-16, 2001. Participation in this show offers good publicity, provided the U.S. firm has already reached a working relationship with an agent. Participating without a local agent in place is not recommended.

VI. Country's Methods of Procurement

The Greek Government and its quasi-governmental agencies are required by law to procure their purchases through international tenders. Greece also adheres to EU procurement policy and is a member of the GATT. Greek laws and regulations concerning government procurement nominally guarantee nondiscriminatory treatment of foreign suppliers.

A standard requirement for all bidders is the posting of a bond, usually 5% of the bid value, for all tenders issued by the Greek government and quasi-governmental agencies. Bonds are returned to the unsuccessful bidders within 5 days of the award of contract. Bids not accompanied by bonds are invalid.

EU countries are the major suppliers of energy sector goods and services to Greece with Germany, Italy, France and the UK holding the lead. Companies from these countries miss no opportunity to bid on Greek government tenders through their local affiliate companies or representatives and to participate in local trade exhibitions. The presence of Japanese and Scandinavian firms is also strong and growing.

EU countries enjoy several advantages over non-EU contenders in bidding on Greek Government tenders. In addition to duty-free status, EU suppliers have the advantages of proximity to the Greek market, which translates into lower transportation costs, and easier and faster service. U.S. equipment/products continue to have an excellent reputation for quality, durability and efficiency and are highly appreciated by the Greek public sector. It has been noted that U.S. companies submitting joint proposals with European companies or local Greek firms are more likely to succeed in winning a contract. The key to success in Greece is to have an experienced local agent or joint venture partner with suitable experience who can offer great support both before and after a sale.

Technical Requirements

The majority of energy sector products and equipment require the approval of the Greek Standards Organization (ELOT). All certificates, such as CE mark, UCL, TUV, as well as fire, environmental and health protections are requested by major end-users. Government controlled agencies and cooperatives require all imported equipment, accessories, and parts to conform to EU standards. Electric current in Greece is a 220 volts, single-phase, and 380 volts, three phase, at a frequency of 50 HZ. ELOT also accepts appraisal certificates issued by any one of the recognized EU certifying agencies.

The Greek Standards Organization (ELOT), in cooperation with the Center for Renewable Energy Sources (CRES), is responsible for issuing specifications for imported Renewable Energy Equipment:

ELOT
313 Aharnon Street
GR-111 45 Athens, Greece

Tel: 30/10/212-0100
Fax: 30/10/212-0430
Contact: Mrs. Maria Pitsika, Director of Certification Department
E-mail: mnp@elot.gr or info@elot.gr

VII. Means of Financing Procurements

Foreign competitors often offer attractive financial packages, including long payment terms, special discounts and support for the supply of equipment and services for various proposed public and private projects.

There are a variety of financing and support programs available from the Greek Government and the EU for innovative energy production and energy saving projects. However, U.S. firms aligned with a Greek partner can qualify for EU funds. The local office of the EU Organization for the Promotion of Energy Technology (OPET) in Greece plays an important role in the development of these projects. This office is part of an EU-wide network of organizations working within the THERMIE program framework to promote European energy technologies and to support the development of new ones. The THERMIE program offers a subsidy up to 45% of the total cost of windparks and other innovative energy projects. The Greek OPET office has earmarked a considerable amount of money to finance windpark, solar and geothermal energy projects on the islands of Crete and Evia.

The EU finances most of the current infrastructure projects in Greece. Occasionally, the European Investment Bank participates in financing for these projects as well. EXIM Bank's exposure is extremely limited. OPIC has not been active in Greece but has initiated discussions with its Greek counterparts on the possibility of creating a joint fund for risk insurance in the Balkans and East and Central Europe.

VIII. Points of Contact

U.S. EMBASSY

U.S. Embassy
The U.S. Commercial Service
91 Vas. Sophias Avenue
GR-101 60 Athens, Greece
Tel: 30/10/720-2302, Fax: 30/10/721-8660
Contact: Emilios Margaritis, Senior Advisor
E-mail: Emilios.Margaritis@mail.doc.gov

HOST COUNTRY GOVERNMENT:

Ministry of Development

General Directorate for Energy - Directorate for Renewable Energies and Rational Use of Energy
80 Michalakopoulou Street
GR-101 92 Athens, Greece
Tel: 30/10/748-2762, Fax: 30/10/777-2485
Contact: Mr. George Agraftotis, Secretary General
E-mail: gensecretary@ypan.gr

Ministry of Development
Directorate of Government Purchases
3 Kaningos Square
GR-101 81 Athens, Greece
Tel: 30/10/384-3884, Fax: 30/10/384-3120
Contact: Mr. Yannis Theodorou, Deputy Minister
E-mail: apostolaki@gge.gr

Ministry of National Economy
Syntagma Square
GR-106 71 Athens, Greece
Tel: 30/10/333-2000, Fax: 30/10/323-0801
Contact: Mr. George Papaioannou, Secretary General
E-mail: generalsecr@mneec.gr

Public Power Corporation
30 Halkokondili Street
GR-104 32 Athens, Greece
Tel: 30/10/523-1508, Fax: 30/10/523-9906
Contact: Dr. Dimitrios Papoulias, President
E-mail: deipr@otenet.gr

Public Natural Gas Corporation (D.E.P.A.)
203-207 Mesogion Avenue
GR-115 27 Neo Psychiko, Greece
Tel: 30/10/679-3501, Fax: 30/10/647-9504
Contact: Mr. Aristidis Vakirlis, Managing Director
E-mail: ppccom@otenet.gr

Regulatory Authority for Energy (RAE)
69 Panepistimiou Street
GR-104 20 Athens, Greece
Tel: 30/10/325-2748, Fax: 30/10/325-5460
Contact: Professor Pantelis Kapros, President
E-mail: info@rae.gr

The Hellenic Transmission System Operator (TSO-DESMHE),
11 Amfitheas Street
GR-175 64 Nea Smyrni, Greece

Tel: 30/10/ 946-6789, Fax 30/10/948-3221
Contact: Mr. Adrianos Papathanassiou, President
E-mail: apapathanasiou@desmie.gr

Hellenic Petroleum
17th Klm. Athens – Corinth National Road
GR-193 00 Aspropyrgos, Greece
Tel: 30/10/ 553-3000, Fax: 30/10/ 553-9298,9
Contact: Mr. George Moraitis, President
E-mail: info@hellenic-petroleum.gr

Center for Renewable Energy Sources (CRES)
19th Klm Athens-Marathon Avenue
GR-190 09 Pikermi, Greece
Tel: 30/10/603-9900, Fax: 30/10/603-9904
Contact: Mr. Demosthenis Agoris, Managing Director
E-mail: cres@cres.gr